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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,235	11/07/2001	Jennifer L. Lee	55393US011	1507
32692	7590	06/25/2004	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			BERMAN, SUSAN W	
PO BOX 33427			ART UNIT	PAPER NUMBER
ST. PAUL, MN 55133-3427			1711	

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/008,235	LEE ET AL.	
	Examiner	Art Unit	
	Susan W Berman	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-64 is/are pending in the application.
- 4a) Of the above claim(s) 1-7, 28-63 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-27 and 64 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Response to Amendment and Arguments

Applicant argues that WO '171 does not disclose compositions wherein the fluid composition is ink jettable. In response, the rejection of claims under 35 USC 102(b) is hereby withdrawn. It is agreed that WO '171 describes ink compositions for screen printing and does not discuss ink jet printing. However, the rejection of claims under 35 USC 103(a) is maintained for the reasons set forth in the rejection herein. New claim 64 is included in the rejection of record.

The rejections of record under obviousness-type double patenting are maintained. The claims of US '753 and US '128 are also directed to ink jettable compositions.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-27 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 98/271171 in view of the state of the art as set forth in the instant specification in "Background of The Invention". WO '171 discloses curable ink compositions comprising a macromonomer and an acrylic resin corresponding to the instantly claimed aliphatic "oligo/resin" and combinations of reactive acrylate monomers to provide the desired combination of properties. WO '171 teaches that the reactive acrylate monomers function as diluents or solvents, as viscosity reducers and as crosslinking agents (page 6, lines 12, to page 7, line 2). The preferred monomers include hexanediol diacrylate, tetrahydrofurfuryl acrylate, isobornyl acrylate, ethoxyethoxyethyl acrylate, propoxylated neopentylglycol diacrylate and trimethylolpropane triacrylate. Although WO '171 does not specifically mention combining a high Tg component, an adhesion-promoting component and a multifunctional monomer, Example 7 discloses a

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composition wherein monomers having these properties, as disclosed by applicant, are combined.

Example 7 in WO '171 discloses a composition wherein the weight percents of components in the combination of reactive monomers are within the ranges set forth in the instant claims. WO '171 teaches that if a mixture of reactive acrylate monomers is used, the amounts of each monomer may be varied to provide the desired combination of properties to the composition. WO '171 discloses tetrahydrofurfuryl acrylate and ethoxyethoxyethyl acrylate as two of the 6 particularly preferred monomers.

Applicant admits on the record that it was known in the art at the time of the invention that inks must have a relatively low viscosity to be jetted, typically from 3-30 cps at the jetting temperature (pages 1-2 in the specification). Applicant further admits that it was known in the art at the time of the invention to employ a free radically polymerizable diluent instead of conventional solvent because the diluent serves as viscosity reducer and as binder and/or crosslinking agent when cured (page 2, lines 25-31).

It would have been obvious to one skilled in the art at the time of the invention to employ a mixture of the reactive acrylate monomers taught by WO '171 and to determine the amounts of each monomer to use in order to obtain compositions having an ink jettable viscosity. WO '171 teaches that if a mixture of reactive acrylate monomers is used, the amounts of each monomer may be varied to provide the desired combination of properties to the composition and teaches that the reactive monomers function as viscosity reducers as well as being curable. One of ordinary skill in the art at the time of the invention would have been motivated to provide compositions comprising diluents that serve as viscosity reducers and as binders and/or crosslinking agents when cured, as taught by WO '171, in order to provide compositions having an ink jettable viscosity provided by the free radically curable reactive monomers, as known to be desirable in the art of ink jet printing and as described in the "Background of the Invention".

With respect to claims 14-16, 18-25, 27, it would have been obvious to one skilled in the art at the time of the invention to determine the required weight percents of different kinds of monomers required to provide the desired combination of properties from the disclosure of WO '171. WO '171 teaches that

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mixtures and amounts of the monomers can be varied to provide the final composition with the desired combination of properties. Therefore, one of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of success of providing a composition with a desired combination of properties, as taught by WO '171. The data for the examples in the instant specification has been considered. There is no comparative evidence of record to show unexpected results commensurate in scope with the instant claims. See the weight ratios "H:E:I" in Tables 1 and 3.

With respect to claims 26 and 27, It would have been obvious to one skilled in the art at the time of the invention to employ a mixture of tetrahydrofurfuryl acrylate and ethoxyethoxyethyl acrylate in the compositions disclosed by WO '171. WO '171 provides motivation by teaching that these specific monomers are among 6 monomers disclosed as being particularly preferred for use in the disclosed compositions. WO '171 also teaches that mixtures and amounts of the monomers can be varied to provide the final composition with the desired combination of properties. Therefore, one of ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of success of providing a composition with a desired combination of properties, as taught by WO '171.

With respect to claim 64, it would have been obvious to one skilled in the art at the time of the invention to vary the amounts of the reactive acrylate monomers in the compositions disclosed by WO '171 to provide a viscosity of up to about 50 cps at 25 °C because teaches that the monomers function as viscosity reducers and that ink jet printing is an obvious variant of screen printing to provide an image.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

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A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 8-27 and 64 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 of U.S. Patent No. 6,534,128. Although the conflicting claims are not identical, they are not patentably distinct from each other because the components of the compositions meeting the definitions set forth in the claims can be the same components although the definitions are not identical. The oligomers set forth in the claims of US '128 are aliphatic urethane acrylate oligomers. The radiation curable reactive diluent set forth in the claims of US '128 considered in view of the disclosure of the components providing the reactive diluent comprises the same components as are set forth in the instant claims.

Claims 8-27 and 64 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 6,558,753. Although the conflicting claims are not identical, they are not patentably distinct from each other because the components of the compositions meeting the definitions set forth in the claims can be the same components although the definitions are not identical. The oligo/resin is set forth in the claims of US '753 and in the instant claims. The radiation curable reactive diluent set forth in the claims of US '753 considered in view of the disclosure of components providing the reactive diluent comprises the same components as are set forth in the instant claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Susan W Berman
Primary Examiner
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